

Study on Assessing Knowledge, Attitude, and Practices Regarding Health and Nutrition among Medical University Students of Karachi, Pakistan to Prevent Lifestyle Diseases

Uzma Naseeb¹, Bushra Hina³, Urooj Shafi², Aroosa Khalil², Areeba Akram², Hina Wasti⁴

¹Department of Biochemistry, Sind Medical College, Jinnah Sindh Medical University, Karachi

²MBBS students of Sind Medical College Jinnah Sindh Medical University, Karachi

³Department of Pharmacognosy, Institute of Pharmaceutical Sciences, Jinnah Sindh Medical University, Karachi.

⁴Department of Pathology, Bahria University of Medical and Dental College, Karachi

Corresponding author: Dr Uzma Naseeb

Email: uzma.naseeb@jsmu.edu.pk

Abstract

The ever increasing burden of lifestyle diseases (diabetes type 2, hypertension, stroke, asthma, COPD) can be controlled by adopting a harmony between healthy lifestyle and taking highly nutritious balanced diet. Since the current generation of medical students is the part of future custodians of health care system, so it is necessary to make awareness that onset of these life threatening diseases can be stopped or delayed by maintaining health in good condition. In this regard, this research was conducted to assess the knowledge, attitude and practices regarding healthy lifestyle and eating habits among medical students in order to know that if medical knowledge influences them to adopt a healthy lifestyle that will not only be advantageous for themselves but also beneficial for their patients.

This cross-sectional study involved 292 participants belonging to 1st to 5th professional of MBBS program in order to compare any transition in knowledge and practices as they are moving from junior (1st and 2nd professional) to senior (3rd to 5th professional). Data was collected using

pretested structured questionnaire comprising of question regarding demographics information, lifestyle practices, dietary habits, physical activities, and factors affecting stress and anxiety followed by statistical evaluation using Chi Square test. It was seen that most of the medical students did not adapted healthy lifestyle practices despite having such vast knowledge regarding health. Most of the juniors (45%) as well as seniors (30.4%) skipped breakfast. Less than half of both consumed fizzy drinks to re-energize them. Almost 50% participants admitted to be involved in physical activities. Exams were marked as the most stressing factor by both. Overall no significance difference regarding adopting a healthy life and eating habits was found among students of Jinnah Sindh Medical University as their transition from their junior to senior years of MBBS.

Keywords

Health, Nutrition, Physical activity, Obesity, stress, Balanced diet, Co morbidity, Non communicable diseases.

1. INTRODUCTION

Health is an important aspect of a person's life. Living a healthy lifestyle is the top priority for many people. Yet today, because of our busy daily schedule and hectic lives, we are unable to attain a healthy lifestyle. A healthy lifestyle includes eating balanced meals, having regular exercise, getting enough sleep and having some physical activities. Taking balanced meal with the right amount of carbohydrate, protein, fruit and vegetable is vital for healthy lifestyle. Regular exercise not only keeps the body fit, but it will also reduce the risk of developing various co morbid diseases. Nutrition is very important pillar of healthy lifestyle. Everyone should have adequate nutrition to optimize physical activities and enjoy a healthy lifestyle (Nazni and Vimala, 2010). Unhealthy eating habits such as skipping breakfast and increased consumption of foods containing high carbohydrate and fat contents are the predisposing factors towards nutritional problems (Nesliah and Emine 2011; Al-Ghamdi et al., 2021; Zaidi *et al.*, 2021) .Today, unhealthy lifestyle preferences are contributing greatly to burden of non-communicable diseases (Sajwani *et al.*, 2009).

Eating habits have been a foremost concern among university students as a determining factor of health status (Ganasegeran *et al.*, 2012). Upgrading from college to university life is a stress full and crucial period for students because during this time they have to work with more dedications and perhaps to the workload burden, they develop carefree towards their eating habits and physical activities. Breakfast has been considered a vital dietary factor to kick start a productive day status leading to improved academic performance and general fitness (Sun *et al.*, 2013; Zaheer *et al.*,

2015).

Medical students are considered to have a finer level of knowledge regarding nutrition and healthy lifestyle and its application on themselves, people closely related to them and most importantly their patients on a professional platform (Lobelo, 2009).

A good nutritional practice is usually ignored in everyday routine despite the definitive connection between diet and health., many practicing physicians and medical students feel under confident to discuss specific recommendations to their patients, which may be due to a lack of its self-implication (Hargrove, 2017) Some studies show that physicians and medical students having indulge in healthy lifestyle habits are more likely to counsel their patients about potential health hazards. But still, academic life in a medical school remains a challenging time for its practical application.

Besides nutrition, physical activity and exercise is another important pillar of a healthy lifestyle. A study carried out in Saudi Arabia regarding physical activity and dietary habits among adolescents, which showed that 84% of males and 92% of females spent more than 2 hours on screen, and females were more physically inactive than males (Al-Hazzaa , 2011). Another issue emerging throughout the world is increased incidence of Obesity, among all age groups specially teenagers. Besides other factors, stress seems to be a major contributory factor towards obesity (Gupta *et al.*, 2009). According to a study conducted in Lebanon, it has been seen that students are switching from typical Mediterranean diet to the fast food pattern, due to which, overweight and obesity are becoming a matter of concern (Yahia *et al.*, 2008).

Cigarette smoking is another health threatening factors among the younger generations. Medical community has a crucial role in the fight against

Smoking. As a single identity, they can create awareness among the population as community members they can help implementing anti-smoking policies and, they can influence tobacco control efforts at national level. Despite having a profound knowledge regarding perils of smoking, medical students often indulge in this injurious practice (Khan *et al.*, 2005).

Energy drink is becoming an important ingredient in the lives of youngsters nowadays. They consume it for different reasons like studying, relaxing, driving and for boosting their energy levels and wakefulness (Aslam *et al.*, 2013).

Medical education highly demands professional and academic excellence. Extensive syllabus, frequent examinations and fear of failure leads to constant stress and anxiety, which forces them to minimize their hours of sleep (Waqas *et al.*, 2015).

The knowledge of medical students about a healthy lifestyle, physical activity and eating habits is considered superior among students of other faculties. As they transit from first year to final year of MBBS, it is a common perception that their knowledge regarding health upgrades with each passing year which makes them competent enough to impart their knowledge to community. But this aspect could not be ignored that due to the cumulative effects of the daily ongoing academic stresses they are not able to utilize the full potential of this precious knowledge. To delineate the importance of this issue, we conducted a study on the medical students of Jinnah Sindh Medical University, Karachi to assess their knowledge, attitude and practices regarding healthy lifestyle and eating habits.

2. MATERIALS AND METHODS

A cross-sectional study was conducted am-

ong the undergraduate students of MBBS studying at Jinnah Sindh Medical University, Karachi to evaluate their concept regarding healthy life style and dietary routine. This research proposal was approved from Institutional Review Board (IRB) of Jinnah Sindh Medical University (JSMU/IRB/2018/-139). A questionnaire was designed for data collection containing different questions, comprising of demographics, lifestyle practices, dietary practices and knowledge assessment about healthy diet and life style habits. Sample size was calculated keeping level of confidence 95% and margin of error 5% which came out to be 292. We included consenting medical students of this university of both gender having age limit of 19-25. Students of all professional years of MBBS (1st to 5th years) were included taking first two years as junior students and from 3rd to 5th year as senior students to observe and compare the pattern of their awareness as well as practicing this knowledge in their daily routine life. University students who did not fit in this age limit and those who declined to take part in the study were excluded. Results of this survey were Statistically evaluated by performing Chi Square Test.

3. RESULTS AND DISCUSSION

In this study out of a sample size of 290 students, 109 were junior students (first and second year) whereas 181 were senior students (third, fourth and final year). Demographic information of the undergraduate medical students of Jinnah Sindh Medical University who participated in the study is summarized in Table 1. We assessed lifestyle of study participants by providing questionnaire which consisted of questions regarding eating habits and water intake, physical activities, , and stressors of life. Comparison of research findings was done between junior and senior medical students regar-

ding their knowledge, attitude, and practices and data was statistically evaluated using Chi square test that are summarized in Table 4.

3.1. Dietary pattern

Different parameters were investigated via asking questions to determin dietary pattern of participants. It include questions related to the most commonly skipped meal of the day, highly richest meal, type of food items taken, eating between the meals, and adopting dieting for fitness.

It was found that 45% of juniors skipped breakfast while this percentage dropped to 30.4% among seniors (Figure 1) which may be attributed to their expanding knowledge about benefits of breakfast which is thought to be the most significant meal of the day (p-value=0.013). This result is comparable to study conducted at University of Ghana Medical School, Africa which showed that 76.62% pre-clinical students and 67.48% students skip breakfast (Ackuaku-Dogbe and Abaidoo, 2014).

Table 1. Demographic Status of Study Participants

Parameters	Results
Sample size (N)	290
Mean Age	22 year
Gender	
Male	21.7% (63 out of 290)
Female	78.3% (227 out of 290)
Year of study	
First year	23.10%
Second year	14.48%
Third year	22.75%
Fourth year	21.03%
Fifth year	18.62%

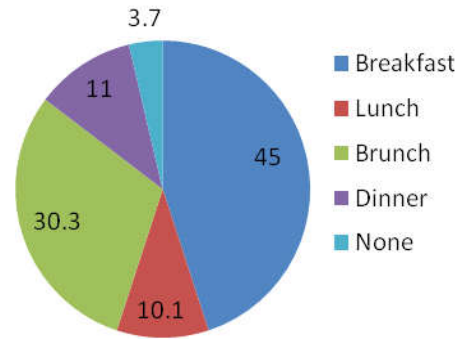


Fig.1: Most skipped Meal of the day by medical students

As far as the richest meal is concerned results are mentioned in Table 2. Study showed that most of the junior students 43.1% had Dinner as their richest meal whereas, majority of seniors (45.9%) had Lunch, which shows their approach towards a healthier lifestyle as initial meals of the day should be richest.

Table 2: Richest Meal taken in a day

Richest meal of the day	Results	
	Junior students	Senior students
Breakfast	17.4%	11.7%
Lunch	39.4%	45.9%
Brunch	0	3.3%
Dinner	43.1%	33.1%

Regarding the component of food which mainly comprises the diet of junior students was vegetables (40.4%) whereas that of seniors was meat (43.1%) while remaining students had fruits and grains/pulses mostly (Figure 2). This study is comparable to a study conducted among medical students in India in 2018 which showed that majority of students (75%) had l-

low consumption of fruit and vegetables (Vibhu et al., 2018).

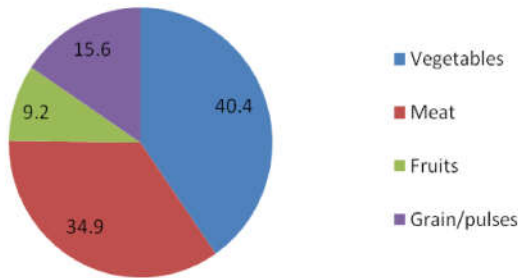


Fig. 2: Food Components comprises of Diet taken by medical students

It is usually observed that medical students due to their busy schedules are more prone to develop irregular eating pattern and habits since they are unable to consume meal up to their satiety levels at appropriate meal time, this was also reflected in our study that most of the juniors (72.5%) as well as seniors (80.1%) consumed something between meals to reach appropriate satiety levels (Table 3).

Table 3: Eating between meal, Consumption of fizzy drinks, and Dieting Habits

Parameters	Results (%)	
	Junior students	Senior student
Eating something between meal		
Yes	72.5	80.1
No	26.6	19.3
Ever tried dieting	Junior students	Senior students
Yes	32.1	45.3
No	67.9	54.7
Consumption of fizzy drinks	Junior students	Senior students
Yes	40.4	33.7
No	58.7	66.3

A large number of people choose to diet to prevent from developing co morbid like Hypertension, Diabetes etc and to make them look smarter. It was found in a study conducted among high school students in America in 2004 that 54.7% students tried to control their weight

through dieting. But in our study no significant difference was noted among students upgrading from first year to final year regarding dieting practices (p-value=0.02) as mentioned in Tables 3 and 4 (Calderon et al., 2004).

3.2. Water and Fizzy Drink Intake

Despite being well informed about the fact that 70% of our body weight consist of water and the need to take adequate amount of water with 34.9% taking 6 glasses was decreased to 36.5% taking 4 glasses of water per day (Figure 3).

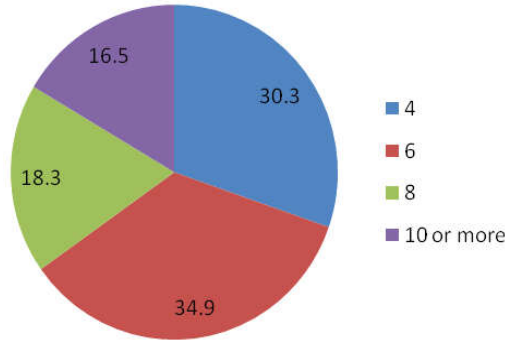


Fig. 3: Water intake by medical students

Energy drinks, despite having its hazardous effects on body are very famous among medical students as a way to boost their energy and increase their attention span. According to a research conducted in The Aga Khan University, prevalence of energy drink consumption was 51.9% (Usman *et al.*, 2015), while in our setup most of students did not opted for energy drinks, instead preferred other healthy drinks and juices (Tables 3 and 4).

3.3. Physical Activity

A study conducted in US medical university concluded that more than half of their students (61%) performed physical activity (Frank et al., 2008), whereas in our study, half of juniors (50.5%) and seniors (55.8%) were already involved in exercise and physical activity. Both the juniors as well as seniors preferred the use of stairs more than elevator which was a sign of a healthy practice (Figure 4). 54.1% juniors preferred ele-

vator while 46.8% seniors preferred stairs. Juniors (50.5%) as well as seniors (55.8%) agreed that they are involved in physical activity and exercise.

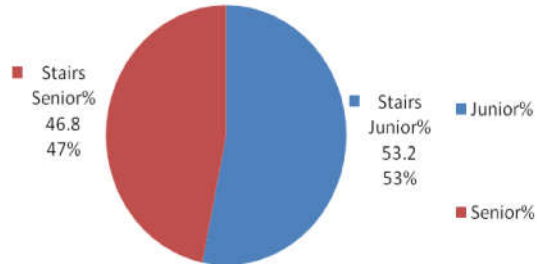


Fig. 4: Physical activity of medical students

3.4. Stressor

Majority of juniors as well as seniors marked their exams as the main factor of stress during their medical life due to huge amount of course, upcoming assessments and ward tests etc. Exam was most stressing factor among both juniors (62.4%) and senior (72.4%) as shown in figure 5.

A similar study conducted in Thai Medical School, 2009, showed 61.4% students had some major stress among which academic problem was the main factor (Saipanish, 2003).

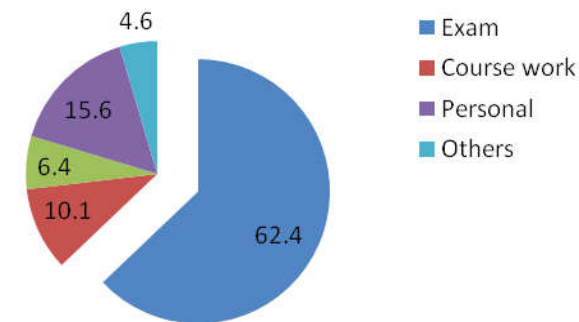


Fig. 5: Stress causing factors

Table 4 gives comparative account of different study parameters between responses of senior and junior students using chi square test.

Table 4: Comparison of lifestyle and dietary pattern among MBBS students

Study Parameters	Results %age		p-value
	Junior students	Senior students	
1-Most skipped meal			
BREAKFAST	45	30.4	0.013
LUNCH	10.1	17.1	
BRUNCH	30.3	24.9	
DINNER	11	23.2	
NONE	3.7	4.4	
2-Richest meal of the day			
BREAKFAST	17.4	11.7	0.107
LUNCH	39.4	45.9	
BRUNCH	0	3.3	
DINNER	43.1	33.1	
3-Component of food comprises of diet			
VEGETABLES	40.4	36.5	0.502
MEAT	34.9	43.1	
FRUITS	9.2	8.8	
GRAIN/PULSES	15.6	11.6	
4-Eating something between meal			
YES	72.5	80.1	0.221
NO	26.6	19.3	
5-Ever tried dieting			
YES	32.1	45.3	0.020
NO	67.9	54.7	
6-Do exercise or do physical activity			
YES	50.5	55.8	0.458
NO	49.5	42.2	
7-Preference			
STAIRS	53.2	54.1	0.724
ELEVATOR	46.8	45.3	
8-Factors that causes stress			
EXAM	62.4	72.4	0.086
COURSE WORK	10.1	9.9	
PERSONAL	15.6	13.8	
OTHERS	4.6	2.8	

4. CONCLUSION

Overall, no significance difference regarding adopting a healthy life and eating habits was found among students of Jinnah Sindh Medical University as they transition from their junior to senior years of MBBS. It is very important to educate medical students to adopt healthy lifestyle and take good diet full of nutrients, always prefer physical activities, take plenty of drinking water and avoid junk foods and fizzy energy drinks. Moreover learn to manage stress. These practices not only improve their own health but as a physician such habits will also helpful in their clinical setups for maintaining their patients. On large scale global Burdon of lifestyle diseases can only be controlled by adopting a active, better and healthier lifestyle.

5. REFERENCES

1. Ackuaku-Dogbe E, Abaidoo B (2014). Breakfast eating habits among medical students. *Ghana medical journal*; 48(2):66-70.
2. Alghamdi, S. A., Alqarni, A. A., Alghamdi, A. F., Alghamdi, T. K., Hasosah, N. M., Aga, S. S., & Khan, M. A. (2021). Knowledge, attitude, and practices regarding dietary habits among medical and non-medical university students. *Journal of family medicine and primary care*, 10(9), 3436–3443. https://doi.org/10.4103/jfmpc.jfmpc_2227_20.
3. Al-Hazzaa HM, Abahussain NA, Al-Sobayel HI, Qahwaji DM, Musaiger AO (2011). Physical activity, sedentary behaviors and dietary habits among Saudi adolescents relative to age, gender and region. *International Journal of Behavioral Nutrition and Physical Activity*;8(1):140.
4. Aslam HM, Mughal A, Edhi MM, Saleem S, Rao MH, Aftab A, et al (2013). Assessment of pattern for consumption and awareness regarding energy drinks among medical students. *Archives of Public Health*.;71(1):31.
5. Calderon LL, Catherine KY, Jambazian P (2004). Dieting practices in high school students. *Journal of the American Dietetic Association*;104(9):1369-74.
6. Ganasegeran K, Al-Dubai SA, Qureshi AM, Al-Abed A-AA, Rizal A, Aljunid SM (2012). Social and psychological factors affecting of eating habits among university students in a Malaysian medical school: a cross-sectional study. *Nutrition Journal*;11(1):48.
7. Gupta S, Ray TG, Saha I (2009). Overweight, obesity and influence of stress on body weight among undergraduate medical students. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*;34(3): 255-257.
8. Frank E, Tong E, Lobelo F, Carrera J, Duperly J (2008). Physical activity levels and counseling practices of U.S. medical students. *Medicine and science in sports and exercise*.;40(3):413-21.
9. Hargrove EJ, Berryman DE, Yoder JM, Beverly EA (2017). Assessment of nutrition knowledge & attitudes in preclinical osteopathic medical students. *J Am Osteopath Assoc*;117:622-33.
10. Khan F, Husain S, Laeeq A, Awais A, Hussain S, Khan J (2005). Smoking prevalence, knowledge & attitudes among medical students in Karachi, Pakistan. *2005.East Mediterr Health J. Sep-Nov*;11(5-6):952-8/
11. Lobelo F., Duperly J., Frank E (2009). Physical activity habits of physicians and medical students influence their counseling practices. *British journal of sports medicine*; 43(2): 89-92.
12. Nazni P, Vimala S. (2010). Nutrition knowledge, attitude and practice of college sportsmen. *Asian journal of sports medicine*;1(2):93.
13. Nesliah R, Emine AY (2011). Energy and nutrient intake and food patterns among Turkish university students. *Nutrition research and practice*.5(2):117-23.
14. Saipanish R (2003). Stress among medical students in a Thai medical school. *Medical teacher*. ; 25(5): 502-6.
15. Sajwani RA, Shoukat S., Raza R, Shiekh MM., Rashid Q, Siddique MS, et al (2009). Knowledge and practice of healthy lifestyle and dietary habits in medical and non-medical students of Karachi, Pakistan. *Journal of the Pakistan Medical Association*;59(9):650.
16. Sun J, Yi H, Liu Z, Wu Y, Bian J, Wu Y, et al

- (2013). Factors associated with skipping breakfast among Inner Mongolia Medical students in China. *BMC Public Health*;13(1):42.
19. Usman A, Bhombal ST, Jawaid A, Zaki S (2015). Energy drinks consumption practices among medical students of a Private sector University of Karachi, Pakistan. *J Pak Med Assoc*.Sep;65(9):1005-7.
 20. Vibhute NA, Baad R, Belgaumi U, Kadashetti V, Bommanavar S, Kamate W (2018). Dietary habits amongst medical students: An institution-based study. *Journal of family medicine and primary care*; 7(6):1464.
 21. Waqas A, Khan S, Sharif W, Khalid U, Ali A (2015). Association of academic stress with sleeping difficulty in medical students of a Pakistani medical school: a cross sectional survey. *Peer J*. Mar 12;3:e840. Doi: 10.7717/peerj.840.
 22. Yahia N, Achkar A, Abdallah A, Rizk S (2008). Eating habits and obesity among Lebanese university students. *Nutrition journal*.;7(1):32.
 23. Zaheer S, Imam S, Imam N, Sikandar M, Bukhari M (2015). Assessment of dietary intake and physical activity pattern of adult girls students. *Biomedica*;31(3): 232-238.
 25. Zaidi K A, Mahmood W, Ahmad F (2021). Assessment of Knowledge, Attitudes and Practices towards Nutrition amongst Adolescents in Karachi KAP STUDY. *Pakistan journal of medicine and dentistry*, VOL. 10 (01): 97-103